NATHANIEL T. GREENE

Assistant Professor
Department of Otolaryngology Head and Neck Surgery
University of Colorado School of Medicine

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Positions and Degrees

University of Colorado Anschutz Medical Campus **Aurora, CO**
Associate Professor, Departments of Otolaryngology and Center for Bioengineering July 2023 – present
Assistant Professor, Departments of Otolaryngology and Center for Bioengineering October 2017 – June 2022

University of Colorado, Boulder **Boulder, CO**
Adjunct Assistant Professor, Department of Speech, Language, and Hearing Sciences August 2018 – present

US Army Aeromedical Research Lab (USAARL) - The Geneva Foundation **Ft. Rucker, AL**
Hearing Scientist, Auditory Protection and Performance Division May 2016 – September 2017

University of Colorado Anschutz Medical Campus **Aurora, CO**
Research Assistant Professor, Departments of Physiology and Biophysics & Otolaryngology March 2015 – May 2016
Postdoctoral Fellow, Advisor: Dr. Daniel Tollin October 2012 – March 2015

University of Rochester **Rochester, NY**
PhD, Biomedical Engineering, Advisor: Dr. Kevin Davis March 2013
- Dissertation: "Influence of the lateral superior olive in the auditory midbrain."

MS, Biomedical Engineering, Advisor: Dr. Kevin Davis March 2009
- Thesis: "Response Properties of Single Units in the Lateral Superior Olive of the Decerebrate Cat."

Wittenberg University **Springfield, OH**
BA, Physics June 2004
- Senior Project: "Evaluating the performance of a single-beam gradient force optical trap for biological applications."
- Minors: Chemistry, Religion

Honors and Awards

- Sigma Xi Research Honor Society, Full member, 2020
- NIH Loan Repayment Program Recipient 2018-2020
- T32 Postdoctoral Fellow, University of Colorado Otolaryngology Department, 2013-2015
- T32 Predoctoral Fellow, University of Rochester Otolaryngology Department, 2010-2012
- ARO Student Travel Award, 2010
- University of Rochester Graduate Organizing Group Conference Award, 2009
- Wittenberg University E.O. Weaver Scholarship, 2002-2004
- Wittenberg University Honors Award, 2000-2004

Teaching and Mentoring Experience

University of Colorado Anschutz Medical Campus **Aurora, CO**
Department of Otolaryngology
Directory, Dept. of Otolaryngology Resident Research Forum 2019-present

Course Director
Lectures presented on Statistics, Data Presentation, and Grant Writing.
T32 training award research mentor 2019-present

University of Colorado Boulder **Boulder, CO**
Department of Speech Language and Hearing Sciences, Adjunct Assistant Professor
SLHS 5674 - Signals and Systems in Audiology Fall 2018
SLHS 5674 - Signals and Systems in Audiology Spring 2021
SLHS 5674 - Signals and Systems in Audiology Fall 2022

University of Rochester **Rochester, NY**
Department of Biomedical Engineering Senior Design, Teaching Assistant *Spring 2009*
- Supervised and motivated student groups throughout project design, development, building, and preparation for regulatory approval/marketing of medical devices.

Physiological Control Systems, Teaching Assistant *Spring 2007*
- Developed, prepared, and taught control systems labs.
- Assisted with teaching concepts and grading of homework.

Wittenberg University **Rochester, NY**
Physics Department Tutor and Teaching Assistant *2003-2004*
- Tutor introductory physics students.
- Assist with preparations for class and laboratories.

Guest Lectures
University of Washington Speech and Hearing Sciences Department
- Graduate research seminar *11/2019*
- Graduate research seminar *11/2019*

Regis University Department of Psychology and Neuroscience
- Graduate research seminar *03/2022*

Certifications
- Certified Occupational Hearing Conservationist (CAOHC) 06/17/2016-06/08/2021

Professional Associations

Current:
- 2006- Association for Research in Otolaryngology (ARO)
- 2007- Society for Neuroscience (SfN)
- 2016- The Acoustical Society of America (ASA), volunteer member of:
  - Technical Committee on Noise 2022-2025
  - Technical Committee on Psychological and Physiological Acoustics 2023-2026
- 2019- American Speech-Language-Hearing Association (ASHA)

Previous:
- 2006 American Association for the Advancement of Science (AAAS)
- 2008-2011 Biomedical Engineering Society (BMES)
- 2010 The Institute of Electrical and Electronics Engineers (IEEE)

Service, Leadership, and Volunteer Experience
Administrative service
CU Anschutz Clinical Research COVID Official 2020-21
Otolaryngology Department Research Committee 2018-present

Otolaryngology Department Program Evaluation Committee 2018-present

Ad-hoc reviewer

Annals of Otology Rhinology & Laryngology
Audiology and Neurotology
Computers in Biology and Medicine
Ear and Hearing
Hearing Research
International Journal of Audiology
Journal of the Acoustical Society of America
Journal of the Acoustical Society of America Express Letters
Journal of the Association for Research in Otolaryngology
Journal of Otology
Laryngoscope Investigative Otolaryngology
Micromachines
Otology and Neurotology
Transactions on Biomedical Engineering

Conference organization

The Ultimate Colorado Midwinter Meeting, Vail, CO
Vail, CO *2019-present*
- *Scientific program advisor*

The 9th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO 2022),
Boulder, CO, *June 21-25, 2022*
- *Co-Chair, along with Steven Cass, John Peacock, and Dan Tollin*
- *Co-Investigator on a NIH/NIDCD R13 conference grant*

The 8th International Congress on Bone Conduction Hearing and Related Technologies (OSSEO 2023),
Denver, CO *September 6-9, 2023*
- *Scientific advisory board member*

The 10th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO 2025),
Leuven, Belgium, *June 17-21, 2025*
- *Scientific committee member*

National Ski Patrol **Maggie Valley, NC; Lyme Center, NH; Swain, NY; Georgetown, CO**
Loveland Ski Area *2012-2016, 2017-present*
Swain Resort *2009-2012*
Dartmouth Skiway *2004-2006*
Cataloochee Ski Area *1999-2004, 2006-2009, 2016-2017*

Publications

Peer Reviewed Publications:

1. Benson, M.A., Peacock, J., **Greene, N.T**. and Tollin, D.J., 2024, February. Can you hear me now? Binaural brainstem and spatial hearing deficits in a Guinea pig model of noise-induced cochlear synaptopathy. In *AIP Conference Proceedings* (Vol. 3062, No. 1). AIP Publishing. https://doi.org/10.1063/5.0190370
2. New, E.M., Hurd, J.A., Alarcon, G.A., Miller, C.S., Williams, P.A., **Greene, N.T.,** Sergott, C.E., Li, B.Z., Lei, T.C. and McCullagh, E.A., 2024. Hearing ability of prairie voles (Microtus ochrogaster). The Journal of the Acoustical Society of America, 155(1), pp.555-567. https://doi.org/10.1121/10.0024357

3. Sammeth CA, **Greene NT**, Brown AD, Tollin DJ, 2023. Interaural frequency mismatch jointly modulates neural brainstem binaural interaction and behavioral interaural time difference sensitivity in humans. Hearing Research. Hearing Research, 437, p.108839.. https://pubmed.ncbi.nlm.nih.gov/37429100/
4. Anderson, D.A., Argo IV, T.F. and **Greene, N.T**., 2023. Occluded insertion loss from intracochlear pressure measurements during acoustic shock wave exposure. Hearing Research, 428, p.108669. https://pubmed.ncbi.nlm.nih.gov/36565603/
5. Koch, M. & Eßinger, T.M., Bornitz, M., Maier, H., Sim, J.H., Ren, L., **Greene, N.T.,** Neudert, M., Zahnert.T. Methods and reference data for middle ear transfer functions. Sci Rep 12, 17241 (2022). https://pubmed.ncbi.nlm.nih.gov/36241675/
6. Tasko, S.M., Deiters, K.K., Flamme, G.A., Smith, M.V., Murphy, W.J., Jones, H.G., **Greene, N.T**. and Ahroon, W.A., 2022. Effects of unilateral eye closure on middle ear muscle contractions. Hearing Research, p.108594. https://www.sciencedirect.com/science/article/pii/S0378595522001629
7. McCullagh, E.A., Peacock, J., Lucas, A., Poleg, S., **Greene, N.T**., Gaut, A., Lagestee, S., Zhang, Y., Kaczmarek, L.K., Park, T.J. and Tollin, D.J., 2022. Auditory brainstem development of naked mole-rats (Heterocephalus glaber). Proceedings of the Royal Society B, 289(1980), p.20220878. https://pubmed.ncbi.nlm.nih.gov/35946148/
8. Peacock, J., Benson, M.A., **Greene, N.T**., Tollin, D.J. and Young, B.A., 2022. The acoustical effect of the neck frill of the frill-necked lizard (Chlamydosaurus kingii). The Journal of the Acoustical Society of America, 152(1), pp.437-444. https://pubmed.ncbi.nlm.nih.gov/35931550/
9. Boscoe, E.F., Banakis Hartl, R.M., Gubbels, S.P. and **Greene, N.T**., 2022. Effects of Varying Laser Parameters During Laser Stapedotomy on Intracochlear Pressures. Otolaryngology–Head and Neck Surgery, p.01945998221104658.. https://pubmed.ncbi.nlm.nih.gov/35671134/
10. Peacock, J., Mackey, C.A., Benson, M.A., Burton, J.A., **Greene, N.T.**, Ramachandran, R. and Tollin, D.J., 2021. The binaural interaction component in Rhesus Macaques (Macaca mulatta). Eneuro, 8(6). https://pubmed.ncbi.nlm.nih.gov/34872939/
11. Jenkins, H.A., **Greene, N.T**. and Tollin, D., 2021. Round Window Stimulation of the Cochlea. Frontiers in neurology, p.2259.https://doi.org/10.3389/fneur.2021.777010
12. Banakis Hartl RM, and **Greene NT**. Measurement and Mitigation of Intracochlear Pressure Transients During Cochlear Implant Electrode Insertion. Otol Neurotol. 2021 Nov 9. https://pubmed.ncbi.nlm.nih.gov/34753876/
13. Sammeth C, **Greene NT**, Brown AD, and Tollin DJ. Normative Study of the Binaural Interaction Component of the Human Auditory Brainstem Response as a Function of Interaural Time Differences. Ear and Hearing, 2020 Oct 30;42(3):629-643. https://pubmed.ncbi.nlm.nih.gov/33141776/
14. Peacock J, Spellman GM, **Greene NT**, and Tollin DJ. Scaling of the Avian Middle Ear. Hear Res. 2020 Sept;395:108017. https://pubmed.ncbi.nlm.nih.gov/32709398/
15. Peacock J, Spellman GM, Tollin DJ, and **Greene NT**. A Comparative Study of Avian Middle Ear Mechanics. Hear Res. 2020 Sept;395:108043. https://pubmed.ncbi.nlm.nih.gov/32828615/
16. Mattingly JK, Banakis Hartl RM, Jenkins HA, Tollin DJ, Cass SP, and **Greene NT**. A Comparison of Intracochlear Pressures During Ipsilateral and Contralateral Stimulation With a Bone Conduction Implant. Ear and Hearing, 2019 Nov 5. https://www.ncbi.nlm.nih.gov/pubmed/31389846
17. Misch ES, Banakis Hartl RM, Gubbels SP, and **Greene NT**. Risks of Intracochlear Pressures From Laser Stapedotomy. Otol Neurotol. 2019 Nov. https://pubmed.ncbi.nlm.nih.gov/31746814/
18. McCullagh, EA, Poleg, S, **Greene, NT**, Huntsman, MM, Tollin, DJ and Klug, A, 2020. Characterization of auditory and binaural spatial hearing in a Fragile X Syndrome mouse model. eNeuro, 2020 Jan 31;7(1):ENEURO.0300-19.2019. https://pubmed.ncbi.nlm.nih.gov/31953317/
19. Gonzalez JR, Cass ND, Banakis Hartl RM, Peacock J, Cass SP, **Greene NT**. Characterizing Insertion Pressure Profiles During Cochlear Implantation: Simultaneous Fluoroscopy and Intracochlear Pressure Measurements. Otology & Neurotology. 2019 Oct 31. https://pubmed.ncbi.nlm.nih.gov/31613835/
20. Banakis Hartl RM, **Greene NT**, Benichoux V, Dondzillo A, Brown AD, and Tollin DJ. Establishing an Animal Model for Investigation of Brainstem Plasticity in Single-Sided Deafness in Chinchilla lanigera. Otolaryngology–Head and Neck Surgery, p.0194599819877649. https://www.ncbi.nlm.nih.gov/pubmed/31570054

21. Deiters KK, Flamme GA, Tasko SM, Murphy WJ, **Greene NT**, Jones HG, Ahroon WA. Generalizability of clinically-measured acoustic reflexes to brief sounds. The Journal of the Acoustical Society of America. 2019 Nov 27;146(5):3993-4006. https://pubmed.ncbi.nlm.nih.gov/31795698/
22. Jones HG, **Greene NT**, Ahroon WA. Human middle-ear muscles rarely contract in anticipation of acoustic impulses: Implications for hearing risk assessments. Hear Res. 2019 Jul; 378, pp.53-62. https://www.ncbi.nlm.nih.gov/pubmed/30538053
23. Peacock J, Alhussaini ML, **Greene NT**, and Tollin DJ. Intracochlear pressure in response to high intensity, low frequency sounds in chinchilla. Hear Res. 2018 Sep; 367:213-222. https://www.ncbi.nlm.nih.gov/pubmed/29945804
24. **Greene NT**, Alhussaini M, Easter, JR, Argo TF, Walilko T, and Tollin DJ. Intracochlear pressure measurements during acoustic shock wave exposure. Hear Res. 2018 Aug; 365:149-164. https://www.ncbi.nlm.nih.gov/pubmed/29843947
25. Alhussaini M, Banakis Hartl RM, Benichoux V, Jenkins HA, Tollin DJ, and **Greene NT**. Intracochlear pressures in stimulated otitis media with effusion: a Temporal bone study. Otol. Neurotol. 2018 Aug; 39(7). https://www.ncbi.nlm.nih.gov/pubmed/29912830
26. **Greene NT**, Anbuhl KL, Ferber AT, Allen PD, and Tollin DJ. Spatial hearing ability of the pigmented Guinea pig (Cavia porcellus): Minimum audible angle and spatial release from masking in azimuth. Hear Res. 2018 Aug; 365:62-76. http://www.ncbi.nlm.nih.gov/pubmed/29778290
27. Banakis Hartl RM, **Greene NT,** Jenkins HA, Cass SP, and Tollin DJ. Lateral semi-circular canal pressures during cochlear implant electrode insertion: A possible mechanism for postoperative vestibular loss. Otol. & Neurotol. 2018 July; 39(6). https://www.ncbi.nlm.nih.gov/pubmed/29789088
28. Jones HG, **Greene NT**, Chen MR, Azcona CM, Archer BJ, and Reeves ER. The Danger Zone for Noise Hazards around the Black Hawk Helicopter Extends Further Than You Think. Aerospace Medicine and Human Performance. 2018 Jun; 89 (6). https://www.ncbi.nlm.nih.gov/pubmed/29789088
29. Anbuhl KL, Benichoux VB, **Greene** NT, Brown AD, and Tollin DJ. Development of the head, pinnae, and acoustical cues to sound location in a precocial species, the guinea pig (Cavia porcellus). Hear Res. 2017 Dec; 356:35-50. https://www.ncbi.nlm.nih.gov/pubmed/29128159
30. Banakis Hartl RM, Mattingly JK, **Greene NT**, Farrell N, Gubbels SP, and Tollin DJ. Drill-induced cochlear injury during otologic surgery: Intracochlear pressure evidence of acoustic trauma. Otol Neurotol. 2017 Aug; 38(7). https://www.ncbi.nlm.nih.gov/pubmed/28598950.
31. Maxwell AK, Banakis Hartl RM, **Greene NT**, Benichoux VB, Mattingly JK, Cass SP, Tollin DJ. Semicircular Canal Pressure Changes during High-Intensity Acoustic Stimulation. Otol Neurotol. 2017 Aug; 38(7). https://www.ncbi.nlm.nih.gov/pubmed/28570420.
32. **Greene NT**, Jenkins HA, Tollin DJ, and Easter, JR. Stapes displacement and intracochlear pressure in response to very high level, low frequency sounds. Hear Res. 2017 May; 348:16-30. https://www.ncbi.nlm.nih.gov/pubmed/28189837
33. **Greene NT**, Mattingly JK, Banakis Hartl RM, Tollin DJ, Cass SP. Intracochlear pressure transients during cochlear implant electrode insertion. Otol Neurotol. 2016 Dec; 37(10):1541-1548. https://www.ncbi.nlm.nih.gov/pubmed/27753703
34. Banakis Hartl RM, Mattingly JK, **Greene NT**, Jenkins HA, Cass SP, and Tollin DJ. A preliminary investigation of the Air-bone Gap: Changes in Intracochlear Sound Pressure with Air- and Bone-conducted Stimuli after Cochlear Implantation. Otol Neurotol. 2016 Oct; 37(9):1291-9. http://www.ncbi.nlm.nih.gov/pubmed/27579835
35. Walilko TJ, Lowe RD, Argo TF, Meegan GD, **Greene NT**, Tollin DJ. Experimental Evaluation of Blast Loadings on the Ear and Head with and Without Hearing Protection Devices. Mechanics of Biological Systems and Materials, Volume 6: Proceedings of the 2016 Annual Conference on Experimental and Applied Mechanics. 2016 September; 6:101-109. https://link.springer.com/chapter/10.1007/978-3-319-41351-8_15
36. **Greene NT**, Mattingly JK, Jenkins HA, Tollin DJ, Easter JR, and Cass SP. Cochlear Implant Electrode Effect on Sound Energy Transfer Within the Cochlea During Acoustic Stimulation. Otol Neurotol. 2015 Sep;36(9):1554-61. http://www.ncbi.nlm.nih.gov/pubmed/26333018

37. Mattingly JK, **Greene NT**, Jenkins HA, Tollin DJ, Easter JR, and Cass SP. 2015. Effects of Skin Thickness on Cochlear Input Signal using Transcutaneous Bone Conduction Implants. Otol Neurotol. 2015 Sep;36(8):1403-11. http://www.ncbi.nlm.nih.gov/pubmed/26164446
38. Brown AD, Beemer BT, **Greene NT**, Argo T, Meegan GD, Tollin DJ. 2015. Effects of active and passive hearing protection devices on sound source localization, speech recognition, and tone detection. PLoS One. 2015 Aug 27;10(8):e0136568. http://www.ncbi.nlm.nih.gov/pubmed/26313145
39. **Greene NT**, Anbuhl KL, Williams W, and Tollin DJ. 2014. The acoustical cues to sound localization in the guinea pig: Measurement of directional transfer functions. Hear Res. 2014 Oct;316:1-15. http://www.ncbi.nlm.nih.gov/pubmed/25051197
40. **Greene, NT**, Davis, KA. 2012. Discharge patterns in the lateral superior olive of decerebrate cats. J. Neurophys. 108(7), 1942-53. http://www.ncbi.nlm.nih.gov/pubmed/22745462
41. **Greene, NT**, Paige, GD. 2012. Influence of sound source width on human sound localization. Conf Proc IEEE Eng Med Biol Soc. 2012;2012:6455-8. http://www.ncbi.nlm.nih.gov/pubmed/23367407
42. **Greene, NT**, Lomakin, O, and Davis, KA 2010. Monaural spectral processing differs between the lateral superior olive and the inferior colliculus: Physiological evidence for an acoustic chiasm. Hear Res. 2010 Oct 1;269(1-2):134-45. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2933962/
43. Metzger, RR, **Greene, NT**, Porter, KK, and Groh, JM 2006. Effects of reward and behavioral context on neural activity in the primate inferior colliculus. J Neurosci. 2006 Jul 12;26(28):7468-76. http://www.ncbi.nlm.nih.gov/pubmed/16837595

Complete List of Published Works
https://www.ncbi.nlm.nih.gov/sites/myncbi/nathaniel.greene.1/bibliography/47629626/public/?sort=date&direction=ascending

Manuscripts in review:
1. Chabuz C, Rodriguez K, Gonzalez J, Peacock J, Banakis Hartl RM, Cass SP, **Greene NT**. Risks of Noise-Induced Hearing Loss During Cochlear Implant Insertion Errors. In review, Laryngoscope.

Book chapters:
1. Walilko TJ, Lowe RD, Argo TF, Meegan GD, **Greene NT,** and Tollin DJ. Experimental Evaluation of Blast Loadings on the Ear and Head with and Without Hearing Protection Devices. In Mechanics of Biological Systems and Materials, Volume 6. 2017; 6:101-9. doi: 10.1007/978-3-319-41351-8_15

Technical Reports:
1. Final Report for Award MAC# N000174-17-D-0032: Non-Lethal Flash Bang Effectiveness Pilot Study: Acoustic Effects. Feb. 2021
2. Flamme, GA, Dieters, KK, Tasko, SM, Smith, MV, Jones, HG, Murphy, WJ, **Greene, NT**, & Ahroon, WA. Pervasiveness Of Early Middle Ear Muscle Contractions. USAARL Tech Report 2021-05.
3. Tasko SM, Dieters KK, Flamme GA, Smith MV, Murphy WJ, Jones HG, **Greene NT**, & Ahroon WA. Middle Ear Muscle Contractions In Response To Non-Acoustic Stimuli: The Role Of Voluntary Motor Activity. USAARL Tech Report 2020-044.
4. Dieters, KK; Flamme, GA; Tasko, SM; Murphy, WJ; **Greene, NT**; Jones, HG; & Ahroon, WA. Generalizability Of Clinically Measured Acoustic Reflexes To Brief Sounds. USAARL Tech Report 2020-020.
5. Jones HG, **Greene NT**, and Ahroon WA. Laboratory evaluation of the warned middle-ear assumption of the auditory hazard assessment algorithm for humans (AHAAH). USAARL Tech Report 2019-04. https://apps.dtic.mil/dtic/tr/fulltext/u2/1077789.pdf
6. **Greene NT**, Jones HG, Ahroon WA, Deiters KK, Tasko WA, and Flamme WA. Assessment of Middle Ear Function during the Acoustic Reflex using Wideband Tympanometry. USAARL Tech Report 2018-22. https://apps.dtic.mil/dtic/tr/fulltext/u2/1077770.pdf
7. Jones HG, **Greene NT**, and Ahroon WA. Assessment of Middle Ear Function during the Acoustic Reflex Using Laser-Doppler Vibrometry. USAARL Tech Report 2017-16. http://www.usaarl.army.mil/TechReports/2017-16.pdf

8. Walilko T, Tollin DJ, Greene NT, Easter J, Argo T. Final Report for Award W81XWH-15-2-0002: Improvement and Extension of Auditory Hazard Models. https://apps.dtic.mil/sti/pdfs/AD1095746.pdf
9. Final Report for Award W81XWH-10-2-0112: Mechanisms and Mitigation of Hearing Loss from Blast Injury

Preprints:

1. **Greene NT**, Davis KA. Pharmacological evidence of a functionally segregated interaural level difference processing pathway from lateral superior olive to inferior colliculus. Preprint available on bioRxiv, doi: 10.1101/510354. January 2, 2019.
2. **Greene NT**, Davis KA. Sensitivity of single units in the lateral superior olive to inferior colliculus of decerebrate cat to sinusoidally amplitude modulated tones. Preprint available on bioRxiv, doi: 10.1101/515270. January 9, 2019.
3. McCullagh, EA, Poleg, S, **Greene, NT**, Huntsman, MM, Tollin, DJ and Klug, A. Auditory binaural and spatial hearing impairments in a Fragile X Syndrome mouse model. Preprint available on bioRxiv, doi: 10.1101/648717. January 1, 2019.
4. Anbuhl, K.L., Ferber, A.T., Brown, A.D., Benichoux, V., Greene, N.T. and Tollin, D.J., 2024. Unilateral auditory deprivation reveals brainstem origin of a sensitive period for spatial hearing. *bioRxiv*, pp.2024-04. https://doi.org/10.1101/2024.04.01.587638

Conferences

Abstracts and Presentations:

1. Bacalao E, Lee N, Ruiz J, Herrmann B, & **Greene NT**. Acoustic Trauma Measured via intracochlear Pressure Changes during Mastoidectomy. In Proceedings of the Forty-seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 47. Anaheim, CA, 2024.
2. Butler MA, Sammeth C, Brown AD, Audet DJ, Hunsaker AA, Argo T, Rule G, & **Greene NT**. Impact of Hearing Protective Devices on Speech Perception Using Quick Speech -in-Noise and the Modified Rhyme Test. In Proceedings of the Forty-seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 47. Anaheim, CA, 2024.
3. Hunsaker AA, Audet DJ, **Greene NT**, Butler MA, Argo T, & Brown AD. Examining Individual Variability in the Acoustic Effects of Hearing Protectors on Cues for Sound Source Localization. In Proceedings of the Forty-seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 47. Anaheim, CA, 2024.
4. Sergison MD, Peacock J, Benson MA, **Greene NT**, Klug A & Tollin DJ. Aging impairs binaural processing and spatial hearing, while increasing synaptopathy, in the Mongolian Gerbil. In Proceedings of the Forty-seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 47. Anaheim, CA, 2024.
5. Walker KA, Sammeth CA, **Greene** NT, Klug K, & Tollin DJ. Electrophysiological Indicators of an Aging Auditory System. In Proceedings of the Forty-seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 47. Anaheim, CA, 2024.
6. Sergison MD, Peacock J, Benson MA, **Greene NT**, Klug A & Tollin DJ. Aging leads to impairment of spatial hearing abilities in the Mongolian Gerbil. The 185th meeting of the Acoustical Society of America (ASA). Sydney, Australia, Dec 4-8, 2023
7. Brown AD, Anderson DA, **Greene NT**, Audet DJ, Hunsaker AA, Sammeth CA, Podolski A, Rule G, and Argo TF. Quantifying Impacts of Hearing Protection Devices on Sound Localization in Azimuth and Elevation: Toward Predictors of Performance. 2023 Military Health Science and Research Symposium (MHSRS; *Accepted Poster presentation*). Kissimmee, FL, Aug. 14-17, 2023.
8. **Greene NT,** Podolski A, Anderson DA, Brown AD, Rule G, and Argo TF. Occluded insertion loss from intracochlear pressure measurements during acoustic shock wave exposure. 2023 Military Health Science and Research Symposium (MHSRS; *Accepted Oral presentation*). Kissimmee, FL, Aug. 14-17, 2023.
9. Havassy J, Thompson RS, Kelley T, Hopkins S, Brunstad N, Rule G, **Greene NT**, Espinoza M, Argo TF, and Fleshner M. Transient Overpressure Stimuli Disrupt Performance of a Learned Task and Impact Continuously Monitored In Vivo Stress Responses in Male and Female Rats. 2023 Military Health Science and Research Symposium (MHSRS; *Poster presentation*). Kissimmee, FL, Aug. 14-17, 2023.

10. R Thompson, J Havassy, T Kelley, S Hopkins, D Syed, N Brunstad, G Rule, **NT Greene**, M Espinoza, TF Argo, M Fleshner. Non-injurious blast overpressure disrupts real-time learned behavior and alters cardiac physiology in rats. The PsychoNeuroImmunology Research Society (PNIRS) 2023 annual meeting. Boulder, CO, June 12-15, 2023.
11. **Greene NT,** Anderson DA, Brown AD, Rule G, and Argo TF. Occluded insertion loss from intracochlear pressure measurements during acoustic shock wave exposure. 2023 International Forum on Blast Injury Countermeasures (IFBIC; *Invited Oral presentation*). Tokyo, Japan, May 17-19, 2023.
12. Brown AD, **Greene NT**, Audet DJ, Hunsaker AA, Sammeth CA, Butler MA, Podolski A, Jerding J, Anderson DA, Rule G, and Argo TF. Quantifying impacts of hearing protection devices on sound localization in azimuth and elevation: Refinement of acoustic predictors. The 184th meeting of the Acoustical Society of America (ASA). Chicago, IL, May 8-12, 2023. *Poster Presentation.*
13. Walker K, **Greene NT**, Klug A, Tollin DJ. Characteristics of Binaural and Spatial Hearing with Advancing Age. American Auditory Society, March 2-4, 2023, Scottsdale, Arizona.
14. Jones, H.G., Tasko, S.M., Deiters, K.K., Flamme, G.A., Smith, M.V., Murphy, W.J., **Greene, N.T**. and Ahroon, W.A. Effects of unilateral eye closure on middle ear muscle contractions. In Proceedings of the Forty-sixth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 46. Orland, FL, 2023. *Oral presentation.*
15. Lee N, Herrmann B, **Greene NT**. Mastoidectomy-induced acoustic trauma measured through intracochlear pressure changes. In Proceedings of the Forty-sixth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 46. Orland, FL, 2023. *Poster presentation.*
16. Brown AD, **Greene NT**, Audet DJ, Hunsaker A, Sammeth CA, Podolski A, Anderson DA, Rule G, & Argo TF. Quantifying impacts of hearing protection devices on sound localization in azimuth and elevation: Toward predictors of performance. In Proceedings of the Forty-sixth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 46. Orland, FL, 2023.
17. Sergison MD, Peacock J, Benson MA, **Greene NT**, Klug A & Tollin DJ. Aging leads to impairment of spatial hearing abilities in the Mongolian Gerbil. In Proceedings of the Forty-sixth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 46. Orland, FL, 2023.
18. **Greene NT**, Anderson DA, Peacock J, Ruiz J, Herrmann B, Chabuz C, Rule G, & Argo TF. Occluded insertion loss from intracochlear pressure measurements during acoustic shock wave exposure. In Proceedings of the Forty-sixth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 46. Orland, FL, 2023. *Poster presentation.*
19. Walker K, Sammeth C, **Greene NT**, Klug A, & Tollin DJ. Impacts of aging on binaural and spatial functioning. In Proceedings of the Forty-sixth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 46. Orland, FL, 2023. *Poster presentation.*
20. Sergison MD, Peacock J, Benson MA, Poleg S, **Greene NT**, Klug A & Tollin DJ. Aging leads to impairment of spatial hearing abilities in the Mongolian Gerbil. In 51st annual meeting of the Soc. Neurosi. (Abstract XXX). San Diego CA, Nov 12-16, 2022.
21. McCallick C, Welles R, Sammeth C, Rule G, Argo TF, **Greene NT**. Non-Lethal Flashbang Effectiveness Pilot Study: Acoustic Effects. 2022 Military Health Science and Research Symposium (MHSRS; poster presentation). Kissimmee, FL, Sept. 12-15, 2022.
22. Benson M, Peacock J, **Greene NT**, Tollin DJ. Can You Hear Me Now? Binaural Brainstem and Spatial Hearing Deficits in a Guinea Pig Model of Noise-Induced Cochlear Synaptopathy. The Mechanics of Hearing Workshop, July 24-29, 2022, Helsingør Denmark. *Poster presentation.*
23. **Greene NT**, Jenkins H, Tollin DJ, Easter J. Techniques to improve the efficiency of a middle ear implant: Effects of coupling method on intracochlear pressure. The 9th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Boulder, CO, June 21-24, 2022. *Poster Presentation.*
24. Easter J, **Greene NT**, Argo TF, Walilko T, Tollin DJ. Derivation of a Simplified Middle Ear Model Using System Identification. The 9th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Boulder, CO, June 21-24, 2022. *Oral Presentation*.
25. Essinger TM, Koch M, Maier H, Sim JH, **Greene** NT, Ren LJ, Bornitz M, Neudert M, Unified database and methods for METF validation in temporal bone experiments. The 9th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Boulder, CO, June 21-24, 2022. *Oral Presentation*.

26. Sergison M, Peacock J, Benson M, Poleg S, **Greene NT**, Klug A, Tollin DJ. Pre-pulse inhibition of the acoustic startle response as a behavioral assay for sound localization abilities of the Mongolian gerbil. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27. *Oral Presentation.*
27. Benson M, Peacock J, **Greene NT**, Tollin DJ. Binaural Brainstem and Spatial Hearing Deficits in a Guinea Pig Model of Noise-Induced Cochlear Synaptopathy. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27. *Poster Presentation.*
28. Uhler KM, Hunsaker AA, **Greene NT**, Walker KA, Brown AD. Toward improved measurement of infant bone conduction auditory brainstem responses. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27. *Poster Presentation.*
29. Argo TF, Anderson DA, Brown AD, **Greene NT**, Jerding J. Development of an electromechanical test system and acoustical metrics to predict impacts of hearing protection devices on sound localization. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27. *Oral Presentation.*
30. Anderson DA, Brown AD, **Greene NT**, Argo TF, Mary B. Development of an in-ear microphone for individualized measurement of hearing protection device output. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27. *Oral Presentation.*
31. Walker K, Sammeth CA, **Greene NT**, Klug A, Tollin DJ. Aging effects on binaural listening and other auditory system assessments. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27, 2022. *Poster Presentation.*
32. Brown AD, **Greene NT**, Audet DJ, McCallick C, Sammeth CA, Anderson DA, Rule G, Argo TF. Quantifying impacts of hearing protection devices on sound localization in azimuth and elevation: Toward predictors of performance. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27, 2022. *Poster Presentation.*
33. **Greene NT**, Anderson DA, Argo TF. Occluded insertion loss from intracochlear pressure measurements during acoustic shock wave exposure. The 182nd meeting of the Acoustical Society of America (ASA). Denver, CO, May 23-27, 2022. *Oral Presentation.*
34. Carolyn CA, Gonzalez J, Rodriguez K, Peacock J, Banakis Hartl RM, Cass SP, **Greene NT**. Risks of Noise-Induced Hearing Loss During Cochlear Implant Insertion Errors. The American Otological Society (AOS; Oral presentation) 155th Annual Meeting. Dallas, TX, Apr 28-May3, 2022.
35. Benson M, Peacock J, **Greene NT**, Tollin DJ. Spatial hearing deficits in a guinea pig model of noise-induced cochlear synaptopathy. Proceedings of the Forty-fifth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 45. San Jose, CA, 2022.
36. Brown AD, **Greene NT**, Boneheads with a couple of ears. Prospects for leveraging transcranial crosstalk to improve directional hearing via bone conduction. Proceedings of the Forty-fifth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 45. San Jose, CA, 2022.
37. **Greene NT**, Gonzalez J, Chabuz CA, Rodriguez K, Peacock J, Banakis Hartl RM, Cass SP. Risks of noise-induced hearing loss during cochlear implantation insertion – Effects of Electrode Orientation. Proceedings of the Forty-fifth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 45. San Jose, CA, 2022. oral presentation.
38. Argo TF, Anderson D, Rule G, **Greene NT**, McCallick C, Sammeth C, Brown A. Validation of Electromechanical Hearing Protection Evaluation Methods. Meeting of the National Hearing Conservation Association (NHCA, Oral Presentation), February 2022.
39. McCallick C, Welles R, Sammeth C, Rule G, Argo TF, **Greene NT**. Non-Lethal Flashbang Effectiveness Pilot Study: Acoustic Effects. The 181st meeting of the Acoustical Society of America (ASA; Oral presentation). Seattle, WA, Nov. 29 - Dec. 3, 2021.
40. McCallick C, Welles R, Sammeth C, Rule G, Argo TF, **Greene NT**. Non-Lethal Flashbang Effectiveness Pilot Study: Acoustic Effects. 2021 Military Health Science and Research Symposium (MHSRS; accepted poster presentation, canceled due to COVID-19). Kissimmee, FL, Aug. 23-26, 2021.
41. **Greene NT,** Gonzalez J, Rodriguez K, Peacock J, Banakis Hartl RM, and Cass SP. Risks of Noise-Induced Hearing Loss During Cochlear Implant Insertion Errors. The Mechanics of Hearing Workshop, July 5-10, 2020, Helsingør Denmark. *Accepted oral presentation – canceled due to COVID-19.*
42. Boscoe EF, Banakis Hartl RM, Gubbels SP, **Greene NT**. Effects of Varying Laser Parameters During Laser Stapedotomy on Intracochlear Pressures. The American Otological Society (AOS; Oral presentation) 153rd

Annual Meeting. Atlanta, GA, Apr 24-25, 2020. *Accepted oral presentation – canceled due to COVID-19, virtual poster session held instead.*

43. Sinnen M, Casper K, Dwenger L, Walker K, **Greene NT**, Kaizer A, Anderson M. Preliminary results on the relationship between spatial separation and age on a speech in noise task. American Auditory Society, March 5 - 7, 2020, Scottsdale, Arizona.
44. Benson M, **Greene NT**, Peacock J, Tollin DJ. Noise-Induced Cochlear Synaptopathy in Guinea Pig. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
45. Brown AD, Hunsaker AA, **Greene NT**. Toward improved stimuli for bone conduction auditory brainstem response audiometry. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
46. **Greene NT**, Alhussaini MA, Easter JR, Tollin DJ, Argo TF, Walilko T. Frequency Dependence of Stapes Displacement and Intracochlear Pressure in Response to Very High Level, High Frequency Sounds. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
47. McCullagh EA, Lucas A, Poleg S, **Greene NT**, Peacock J, Anderson M, Tollin DJ, Klug A. Age-Related Changes to Binaural Hearing and Auditory Brainstem in the Mongolian Gerbil. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
48. Peacock J, Spellman GM, **Greene NT**, Tollin DJ. A Comparative Study of Avian Middle Ear Morphology and Mechanics. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
49. Sammeth CA, **Greene NT**, Brown AD, Tollin DJ. Effect of Interaural Frequency Mismatch on Lateralization Threshold and the Binaural Interaction Component of the Auditory Brainstem Response in Human Subjects. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
50. Uhler KA, **Greene NT**, Anderson M. The Relationship Between Response Time and Presentation Level in Infant Speech Discrimination: A Methodological Study. Proceedings of the Forty-third Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 43. San Jose, CA, Jan. 25-29, 2020.
51. **Greene NT**. Hearing and hearing loss risks from traditional and non-traditional noise. University of Washington Dept. Speech and Hearing Sciences, November 12, 2019.
52. **Greene NT**. Insights into bone conduction hearing from cadaveric human temporal bone studies. CU SOM Department of Otolaryngology T32 seminar series, October 24, 2019.
53. **Greene NT**. Mechanical mechanisms of blast damage. Invited presentation, Field-based meeting on Service-related auditory and vestibular injuries in U.S. Veterans. U.S. Department of Veterans Affairs, Portland, OR, Sept. 5-6, 2019.
54. Gonzalez JR, Banakis Hartl RM, Peacock J, Cass SP, **Greene NT**. Characterizing Mechanisms of Intracochlear Pressure Spikes During Cochlear Implantation via Simultaneous Cochlear Fluoroscopy and Intracochlear Pressure Measurements. The American Neurotology Society (ANS; Poster presentation) 54th Annual Meeting. Austin, TX, May 3-4, 2019.
55. Misch EM, Banakis Hartl RM, Gubbels SP, and **Greene NT**. Effect of Laser Stapedotomy on Intracochlear Pressure Measurements. The American Otological Society (AOS; Oral presentation) 152nd Annual Meeting. Austin, TX, May 3-5, 2019.
56. Ahroon WA, Tasko SM, Flamme GA, Deiters KK, McGregor KD, Smith MV, Murphy WJ, **Greene NT** and Jones HG. Middle-ear Muscle Contractions Are Not Dependable Hearing Protection. Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.
57. Benson M, Peacock J, **Greene NT**, and Tollin DJ. Auditory Trauma Following Blast Exposure. Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.

58. Easter J, **Greene NT**, Tollin DJ, Argo TF, and Walilko T. Derivation of a simplified middle ear model using system identification. Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.
59. Gonzalez JR, Banakis Hartl RM, Peacock J, Cass SP, and **Greene NT**. Characterizing Mechanisms of Intracochlear Pressure Spikes During Cochlear Implantation via Simultaneous Cochlear Fluoroscopy and Intracochlear Pressure Measurements. Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.
60. Owrutsky Z, Peacock J, **Greene NT**, and Tollin DJ. Acoustic Cues to Sound Localization in the Common Ostrich (Struthio camelus). Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.
61. Peacock J, Alhussaini M, **Greene NT**, and Tollin DJ. Stapes displacement in response to low-frequency, high-intensity sounds: A cross species study. Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.
62. CA. Sammeth, **NT Greene**, AD Brown, and DJ Tollin. Normative Study of the Binaural Interaction Component of the Human Auditory Brainstem Response as a Function of Interaural Timing Differences. Proceedings of the Forty-second Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 42. Baltimore, MD, Feb. 9-13, 2019.
63. Tasko SM, Flamme GA, Deiters KK, Smith M, Murphy WJ, Jones HG, Ahroon WA, and **Greene NT.** Influence of incidental motor activity on middle ear muscle contractions. National Hearing Conservation Association (NHCA) 43rd Annual Conference, Grapevine, TX, Feb. 7-9, 2019.
64. Deiters KK, Flamme GA, Tasko SM, Jones HG, Smith M, Murphy WJ, Ahroon WA, and **Greene NT.** Laboratory and Field Studies of MEMC in Response to Impulse Noise. National Hearing Conservation Association (NHCA) 43rd Annual Conference, Grapevine, TX, Feb. 7-9, 2019.
65. **Greene NT**. Intracochlear Pressures and Fluoroscopic Imaging During Cochlear Implant Electrode Insertion. the 2019 Ultimate Colorado Midwinter Meeting, Vail, CO, Feb. 3-7, 2019.
66. Banakis Hartl RM, Benichoux V, Costabile J, **Greene NT**¸ and Tollin DJ. Brainstem Plasticity: Effects on Cochlear Implants for Unilateral Deafness. AAO-HNSF 2018 Annual Meeting and OTO Experience. Atlanta, GA, Oct, 7-10, 2018.
67. Banakis Hartl RM, **Greene NT**, Jenkins HA (Presenting author), Cass SP, & Tollin DJ. Cochlear Implant Electrode Insertion Effects on Lateral Semicircular Canal Pressures. 2018 Annual CORLAS meeting. Beijing, China.
68. Argo TF, Walilko T, Tollin DJ, **Greene NT**, and Easter JR. A hearing protection device evaluation protocol for the auditory hazard assessment algorithm for humans. 2018 Military Health Science and Research Symposium (MHSRS; Oral presentation). Kissimmee, FL, Aug. 20-22, 2018.
69. Jones HG, **Greene NT**, and Ahroon WA. Military Impulse Noise Exposures and Damage-Risk Criteria: Middle Ear Considerations for Hearing Risk Assessment Models. 2018 Military Health Science and Research Symposium (MHSRS; Oral presentation). Kissimmee, FL, Aug. 20-22, 2018.
70. Peacock J, **Greene NT**, and Tollin DJ (presenting author). Auditory Trauma from Blast: Measurements in Chinchillas and how they compare to Humans. 2018 Military Health Science and Research Symposium (MHSRS). Kissimmee, FL, Aug. 20-22, 2018.
71. Walilko T, **Greene NT (presenting author)**, Argo TF, Easter JR, and Tollin DJ. Development of a new auditory injury model for quantifying inner ear damage mechanisms. 2018 Military Health Science and Research Symposium (MHSRS). Kissimmee, FL, Aug. 20-22, 2018.
72. Ahroon WA, Tasko SM, Flamme GA, Deiters KK, McGregor KD, Smith M, Murphy WJ, **Greene NT**, & Jones HG. Middle-ear muscle contractions are not dependable hearing protection. In Abstracts of the 8th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO; Oral presentation), Shanghai, China, July 6-9, 2018.
73. Banakis Hartl RM, **Greene NT,** Jenkins HA, Cass SP, and Tollin DJ. Effects of cochlear implant electrode placement and surgical manipulations on intracochlear pressure levels. In Abstracts of the 8th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO; Oral presentation), Shanghai, China, July 6-9, 2018.
74. **Greene NT**, Co-moderator. Biomechanics of the Middle Ear. The 8th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Shanghai, China, July 6-9, 2018.

75. **Greene NT**, Alhussaini MA, Easter JR, Tollin DJ, Argo TF, and Walilko T. Stapes displacement and intracochlear pressure in response to very high level, high frequency sounds. In Abstracts of the 8th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO; Oral presentation), Shanghai, China, July 6-9, 2018.
76. Jones HG, **Greene NT**, and Ahroon WA. Human middle ear muscles rarely contract in anticipation of acoustic impulses. In Abstracts of the 8th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO; Oral presentation), Shanghai, China, July 6-9, 2018.
77. Peacock J, **Greene NT**, Alhussaini M, Tollin DJ. Chinch-Human transfer function. In Abstracts of the 8th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO; Oral presentation), Shanghai, China, July 6-9, 2018.
78. Flamme GA, Tasko SM, Deiters KK, Murphy WJ, Jones HG, Ahroon WA, **Greene NT**. Anticipatory middle ear muscle contractions in damage-risk criteria. The 3rd Japan-US Technical Information Exchange Forum on Blast Injury (JUFBI 2018; Invited Presentation). Tokyo, Japan, May 9-11, 2018.
79. Jones HG, **Greene NT**, Ahroon WA. Blast-related auditory injury risk assessment models should not consider middle ear muscle contractions as protective. The 3rd Japan-US Technical Information Exchange Forum on Blast Injury (JUFBI 2018; Invited Presentation). Tokyo, Japan, May 9-11, 2018.
80. Tasko SM, Flamme GA, Deiters KK, Ahroon WA, McGregor KD, Smith MV, Murphy WJ, **Greene NT**, Jones HG. Can middle ear muscle contractions provide dependable protection from impulse noise? The 3rd Japan-US Technical Information Exchange Forum on Blast Injury (JUFBI 2018; Invited Presentation). Tokyo, Japan, May 9-11, 2018.
81. Argo TF, **Greene NT**, Easter JR, Tollin DJ, & Walilko T. Quantifying the insertion loss of hearing protection using a compressed gas shock tube. The 175th meeting of the Acoustical Society of America (ASA; Oral presentation). Minneapolis, MN, May 7-11, 2018.
82. Flamme GA, Tasko SM, Deiters KK, Murphy WJ, Jones, HG, Ahroon WA, & **Greene NT**. Anticipatory Middle Ear Muscle Contractions in Damage-Risk Criteria. The 175th meeting of the Acoustical Society of America (ASA; Oral presentation). Minneapolis, MN, May 7-11, 2018.
83. Jones HG, **Greene NT (presenting author)**, & Ahroon WA. Human middle-ear muscles rarely contract in anticipation of acoustic impulses. The 175th meeting of the Acoustical Society of America (ASA; Oral presentation). Minneapolis, MN, May 7-11, 2018.
84. Banakis Hartl RM, **Greene NT,** Jenkins HA, Cass SP, and Tollin DJ. Lateral semi-circular canal pressures during cochlear implant electrode insertion: A possible mechanism for postoperative vestibular loss. The American Neurotology Society 53rd Annual Meeting. (Oral Presentation), San Diego, CA, April 20-22, 2018.
85. Flamme GA, Tasko SM, Deiters KK, **Greene NT**, Murphy WJ, Jones HG, Ahroon WA. Middle ear muscle contractions are not dependable hearing protection. The 45th Annual Scientific and Technology Conference of the American Auditory Society. Scottsdale, AZ, Feb. 15-18, 2018.
86. Deiters KK, Flamme GA, Tasko SM, Murphy WJ, **Greene NT**, Jones HG, Ahroon WA. Generalizability of clinically-measured acoustic reflexes to brief sounds. National Hearing Conservation Association (NHCA) 42nd Annual Conference, Orlando, FL, Feb. 7-9, 2018.
87. Flamme GA, Tasko SM, Deiters KK, **Greene NT**, Murphy WJ, Jones HG, Ahroon WA. Laboratory conditioning of middle ear muscle contractions. National Hearing Conservation Association (NHCA) 42nd Annual Conference, Orlando, FL, Feb. 7-9, 2018.
88. Tasko SM, Flamme GA, Deiters KK, Smith MV, Murphy WJ, Jones HG, **Greene NT**, Ahroon WA. Concomitant head/neck muscle activity and middle ear muscle contractions. National Hearing Conservation Association (NHCA) 42nd Annual Conference, Orlando, FL, Feb. 7-9, 2018.
89. Smith MV, Tasko SM, Flamme GA, Deiters KK, Murphy WJ, Jones HG, **Greene NT**, Ahroon WA. Middle ear muscle activity associated with mastication. National Hearing Conservation Association (NHCA) 42nd Annual Conference, Orlando, FL, Feb. 7-9, 2018.
90. **Greene NT**, Jones HG, Flamme GA, Tasko SM, Deiters KK, & Ahroon WA. A method of detecting frequency dependence in middle ear muscle contractions during task engagement. Proceedings of the Forty-first Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 41. San Diego, CA, Feb. 9-14, 2018.

91. Jones HG, **Greene NT**, & Ahroon WA. Human middle-ear muscles rarely contract in anticipation of acoustic impulses. Proceedings of the Forty-first Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). (Oral presentation) Vol 41. San Diego, CA, Feb. 9-14, 2018.
92. **Greene NT**. Clinical and Research Measurements of the Acoustic Reflex Threshold. the 2018 Ultimate Colorado Midwinter Meeting, Vail, CO, Feb. 4-8, 2018.
93. **Greene NT**, Jones HG, Flamme GA, Tasko S, Deiters K, and Ahroon WA. Acoustic and non-acoustic elicitors of middle ear muscle contractions in military and civilian populations. 2017 Military Health Science and Research Symposium (MHSRS). (Oral presentation). Kissimmee FL, Aug. 27-30, 2017.
94. Jones HG, **Greene NT**, and Ahroon WA. Preliminary results: Classical conditioning of the MEMC during the acoustic reflex. 2017 Military Health Science and Research Symposium (MHSRS). (Poster presentation). Kissimmee FL, Aug. 27-30, 2017.
95. Jones HG, **Greene NT**, Ahroon WA. Experimental testing whether the acoustic reflex can be warned. CAVRN (Poster presentation). San Antonio, TX, June 12-15, 2017.
96. Easter JR, **Greene NT**, Banakis Hartl RM, Tollin DJ, and Cass SP. Objective measures of output for a middle ear actuator: Effectiveness of different methods of coupling. 6th International Congress on Bone Conduction Hearing and Related Technologies (Osseo; Oral presentation). Nijmegen DE, May 17-20, 2017
97. **Greene NT**, Jones HG, Ahroon WA. Assessment of MIL-STD 1474E, the AHAAH model. The Aerospace Medical Association's (AsMA) 88th Annual Scientific Meeting (Oral Presentation). Denver, CO, Apr. 30-May 4, 2017.
98. Jones HG, **Greene NT**, Hollonbeck SA. Promoting Active Hearing Protection Combined with Communication Capabilities to Improve Situational Awareness and Safety on the Airfield. The Aerospace Medical Association's (AsMA) 88th Annual Scientific Meeting (Oral Presentation). Denver, CO, Apr. 30-May 4, 2017.
99. Flamme GA, Tasko SM, Deiters KK, **Greene NT**, Ahroon WA. Reflexive and anticipatory middle ear muscle contractions for impulsive sounds. The Aerospace Medical Association's (AsMA) 88th Annual Scientific Meeting (Oral Presentation). Denver, CO, Apr. 30-May 4, 2017.
100. Maxwell AK, Banakis Hartl RM, **Greene NT**, Benichoux VB, Mattingly JK, Cass SP, Tollin DJ. Semicircular Canal Pressure Changes during High-Intensity Acoustic Stimulation. The American Neurotology Society (ANS) 52nd Annual Meeting. (Oral Presentation), San Diego, CA, April 26-30, 2017.
101. Banakis Hartl RM, Mattingly JK, **Greene NT**, Farrell N, Gubbels SP, Tollin DJ. Drill-induced cochlear injury during otologic surgery: Intracochlear pressure evidence of acoustic trauma. The American Otological Society (AOS) 150th Annual Spring Meeting. (Oral Presentation), San Diego, CA, April 26-30, 2017.
102. **Greene NT**, Jones HG, Flamme GA, Ahroon WA. Recent Experiments Assessing Components of the Auditory Hazard Assessment Algorithm for Humans (AHAAH). The 2nd Japan-US Technical Information Exchange Forum on Blast Injury (JUFBI 2017; Invited Presentation). Tokyo, Japan, April 14-16, 2017.
103. Jones HG, **Greene NT**, Ahroon WA. Warning the acoustic reflex to protect against blast-related auditory injury: Attempt to classically condition the middle ear muscle contraction. The 2nd Japan-US Technical Information Exchange Forum on Blast Injury (JUFBI 2017; Invited Presentation). Tokyo, Japan, April 14-16, 2017.
104. **Greene NT**, Wei Dong, Co-moderators. Mechanics of the Middle Ear. The Fortieth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO).
105. **Greene NT**, Jones HG, Hollonbeck SA, Ahroon WA. Modelling the Effects of Middle Ear Muscle Contraction on Tympanic Membrane Motion. The Fortieth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO; Oral Presentation). Vol 40. Baltimore, MD, Feb. 11-15, 2017.
106. Jones HG, **Greene NT**, Karch S, Hollonbeck SA, Ahroon WA. Middle Ear Responses Measured at the Tympanic Membrane during the Acoustic Reflex: A Comparison to Clinical Impedance Measures. The Fortieth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO; poster presentation). Vol 40. Baltimore, MD, Feb. 11-15, 2017.
107. Anbuhl KL, Brown AD, Benichoux V, **Greene NT**, Ferber AT, Tollin DJ. Duration of temporary hearing loss during development influences severity of behavioral and neural impairments to sound localization. The Fortieth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO; poster presentation). Vol 40. Baltimore, MD, Feb. 11-15, 2017.

108. Okland TS, Alhussaini M, Casey JT, Banakis Hartl RM, Benichoux VB, Mattingly JK, **Greene NT**, Jenkins HA, Tollin DJ. Normative measures of ossicular chain compliance using the Otopen surgical device. The Fortieth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO; poster presentation). Vol 40. Baltimore, MD, Feb. 11-15, 2017.
109. Alhussaini M, **Greene NT**, Benichoux VB, Banakis Hartl RM, Jenkins HA, Tollin DJ. Intracochlear pressures in stimulated otitis media with effusion: a temporal bone study. The Fortieth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO; poster presentation). Vol 40. Baltimore, MD, Feb. 11-15, 2017.
110. Jones HG, **Greene NT**, Fasanya BK, Hollonbeck SA, Ahroon WA. Assessment of the Middle-ear Assumption of the Auditory Hazard Assessment Algorithm for Humans. The 5th joint meeting of the Acoustical Society of America (ASA)and the Acoustical Society of Japan, Honolulu HI, November 28-December 2, 2016.
111. Jones HG, Fasanya BK, **Greene NT**, Ahroon WA. Assessment of the Middle-ear Assumption of the Auditory Hazard Assessment Algorithm for Humans (AHAAH). ONR NIHL Annual Review, Memphis TN, September 13-15, 2016.
112. Tollin DJ, Mattingly JK, Banakis Hartl RM, Cass SP, **Greene NT**. Intracochlear pressure transients during cochlear implant electrode insertion. 2016 Annual CORLAS meeting, Bordeaux, France, August 28-31, 2016.
113. Jones HG, Fasanya BK, **Greene NT**, Ahroon WA. Assessment of the Middle-ear Assumption of the Auditory Hazard Assessment Algorithm for Humans (AHAAH). 2016 Military Health Science and Research Symposium (MHSRS). , Orlando, FL, August 15-18, 2016.
114. Walilko TJ, Argo TF, Meegan D, **Greene NT**, Tollin DJ. Quantifying the Nonlinear Characteristics of Hearing Protection Devices against Blast Overpressure, Military Health Science and Research Symposium (MHSRS). , Orlando, FL, August 15-18, 2016.
115. Walilko TJ, Argo TF, Zai L, Tollin DJ, **Greene NT**, VandeVord P, Hulbert L. Integration of Human and Animal Models to Systematically Evaluate Blast Loadings of the Neurological System. Japan -US Forum on Blast Injury 2016 (Invited presentation), Tokyo, Japan, June 13-15, 2016.
116. Walilko TJ, Lowe RD, Argo TF, **Greene NT**, Tollin DJ. Experimental Evaluation of Blast Loadings on the Ear and Head Protected With Hearing Protection. Society for Experimental Mechanics SEM XIII International Congress (Keynote Presentation), Orlando, FL, June 6-9, 2016.
117. Anbuhl KL, **Greene NT**, Ferber AT, Benichoux V, Brown AD, and Tollin DJ. Temporary unilateral conductive hearing loss during development impairs auditory spatial discrimination ability and information processing in neurons of the inferior colliculus. Proceedings of the Thirty-ninth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 39. San Deigo, CA, Feb. 20-24, 2016.
118. Banakis Hartl RM, **Greene NT**, and Tollin DJ. Investigating the Weber phenomenon: Intracochlear sound pressure with acoustic and bone conducted stimuli. Proceedings of the Thirty-ninth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 39. San Deigo, CA, Feb. 20-24, 2016.
119. Easter JR, **Greene NT**, Tollin DJ, and Cass SP. Stapes velocities and intracochlear pressures for differing modes of stimulation with an implantable middle ear hearing device. Proceedings of the Thirty-ninth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 39. San Deigo, CA, Feb. 20-24, 2016.
120. **Greene NT**, Hussaini MA, Walilko TJ, Argo TF, Easter JR, and Tollin DJ. Intracochlear Sound Pressure Levels During Acoustic Shock Wave Exposure. Proceedings of the Thirty-ninth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). (Oral presentation) Vol 39. San Deigo, CA, Feb. 20-24, 2016.
121. **Greene NT** Investigating the Mechanisms of Residual Hearing Loss Following Cochlear Implant Insertion. the 2016 Ultimate Colorado Midwinter Meeting, Vail, CO, Feb. 7-10, 2016.
122. Easter J, **Greene NT**, Tollin DJ, and Cass SP.. Stapes velocities and intracochlear pressures for two modes of direct mechanical stimulation. In Abstracts of the 7th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Aalborg Denmark. July 1-5, 2015
123. **Greene NT**, Jenkins H, Tollin DJ, Easter J. July 1-5, 2015.Ossicular chain motion during low frequency and high intensity sound stimulation. In Abstracts of the 7th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Aalborg Denmark.

124. **Greene NT**, Jenkins H, Tollin DJ, Easter J. July 1-5, 2015.Vibratory motion of the stapes tendon during sound stimulation. In Abstracts of the 7th International Symposium on Middle Ear Mechanics in Research and Otology (MEMRO), Aalborg Denmark.
125. Brown AD, Beemer BT, **Greene NT**, Tollin DJ. Effects of active and passive hearing protective devices on sound source localization, tone detection, and speech recognition. In Abstracts of the 169th Meeting of the Acoustical Society of America, Pittsburgh PA, May 18-22 2015.
126. Mattingly JK, **Greene NT**, Jenkins HA, Tollin DJ, Easter JR, and Cass SP. Effects of Skin Thickness on Cochlear Input Signal using Transcutaneous Bone Conduction Implants. The American Otological Society 148th Annual Meeting. (Oral Presentation), Boston MA, April 25-26, 2015.
127. **Greene NT**, Mattingly JK, Jenkins HA, Tollin DJ, Easter JR, and Cass SP. Cochlear Implant Electrode Effect on Sound Energy Transfer Within the Cochlea During Acoustic Stimulation. The American Neurotology Society 50th Annual Meeting. (Oral Presentation), Boston MA, April 24-25, 2015
128. **Greene NT**, Mattingly JK, Jenkins HA, Tollin DJ, Easter JR, and Cass SP. Middle ear and cochlear mechanics underlying bone conducted hearing. In Abstracts of the Thirty-Eighth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 38. Abstract PS-371, Baltimore MD, Feb. 21-25, 2015.
129. Mattingly JK, **Greene NT**, Jenkins HA, Tollin DJ, Easter JR, and Cass SP. Effects of Ipsilateral and Contralateral Placement of Bone-Conduction Systems on Cochlear Input Signal. In Abstracts of the Thirty-Eighth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 38. Abstract PS-372, Baltimore MD, Feb. 21-25, 2015.
130. Anbuhl KA, **Greene NT**, Tollin DJ. Contribution of Head and Pinnae Growth to the Acoustical Cues to Sound Location in the Developing Guinea Pig (Cavia porcellus). In Abstracts of the Thirty-Eighth Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 38. Abstract PS-443, Baltimore MD, Feb. 21-25, 2015.
131. **Greene NT.** Investigations into the Cochlear Mechanics of Bone Conducted Hearing. the 2016 Ultimate Colorado Midwinter Meeting, Vail, CO, Feb. 1-5, 2015.
132. **Greene NT**, Jenkins H, Tollin DJ, Easter J. July 12-18, 2014. Simultaneous Measurement of Differential Intracochlear Pressure and Ossicular Velocity by Scanning Vibrometry During Very High Intensity Sound Presentation. Invited presentation and poster, Gordon Research Seminar and Conference – Auditory System, Lewiston ME, July 13-18, 2014.
133. **Greene NT**, Jenkins HA, Tollin DJ, and Easter, JR. Techniques to improve the efficiency of a middle ear implant: Effects of coupling method on intracochlear pressure. 13th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Munich Germany, June 18-21, 2014.
134. **Greene NT**, Anbuhl KA, Ferber AT, Tollin DJ. Investigations into guinea pig sound localization ability. Invited presentation, Northeaster Ohio Medical School, Rootstown OH, June 16, 2014.
135. **Greene NT**, Pfannenstiel TJ, Jenkins HA, Tollin DJ, and Easter, JR. Peak Intracochlear Pressure and Ossicular Displacement at Very High Sound Intensities. The American Otological Society 147th Annual Meeting. (Oral Presentation), Las Vegas NV, May 16-17, 2014.
136. **Greene NT**, Jenkins H, Pineda M, Tollin DJ, Easter J. 2014. Simultaneous Measurement of Differential Intracochlear Pressure and Ossicular Velocity by Scanning Vibrometry During Very High Intensity Sound Presentation. In Abstracts of the Thirty-Seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 37. Abstract PD-194, San Diego CA, Feb. 22-26, 2014.
137. Anbuhl KL, **Greene NT**, Ferber AT, Allen PD, Tollin DJ. 2014. The role of external ear acoustics of the adult guinea pig in a spatial hearing behavioral task. In Abstracts of the Thirty-Seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 37. Abstract PS-413, San Diego CA, Feb. 22-26, 2014.
138. Ferber AT, **Greene NT**, Anbuhl KL, Allen PD, Tollin DJ. 2014. Behavioral Assessment of Binaural Spatial Hearing Ability in a Population of Adult Guinea Pigs (Cavia porcellus). In Abstracts of the Thirty-Seventh Annual Mid-Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 37. Abstract PS-414, San Diego CA, Feb. 22-26, 2014.
139. **Greene NT**, Anbuhl K, Ferber AT, Tollin DJ. 2013. Guinea Pig sound localization ability. CU Neuroscience retreat.

140. **Greene NT**. 3D Reconstruction of Human Ossicular Chain Motion During Intense Acoustic Stimulation. CU SOM Department of Otolaryngology T32 seminar series, September 29, 2019.
141. **Greene NT**, Ferber AT, Anbuhl KL, Allen PD, Tollin DJ. 2013. Spatial hearing capabilities of the adult guinea pig (Cavia porcellus). In APAN XI. San Diego CA, Nov. 8 2013. Poster.
142. **Greene NT**, Ferber AT, Anbuhl KL, Allen PD, Tollin DJ. 2013. Spatial hearing capabilities of the adult guinea pig (Cavia porcellus). In 43rd annual meeting of the Soc. Neurosi. (Abstract 353.06). San Diego CA, Nov 9-13, 2014.
143. **Greene NT**, Paige GD. 2012. Influence of sound source width on human sound localization. Conf Proc IEEE Eng Med Biol Soc. 6455-8.
144. **Greene NT** and Davis KA. 2012. Pharmacological evidence of a functionally segregated ILD processing pathway. In Abstracts of the Thirty-Fifth Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 35. (Abstract 212).
145. **Greene NT** and Davis KA. 2011. Pharmacological evidence of a functionally segregated pathway from the lateral superior olive to the inferior colliculus. In 41st annual meeting of the Soc. Neurosi. program/ poster 478.14/kk11.
146. **Greene NT** and Davis KA. 2011. Envelope coding differs along the pathway from lateral superior olive to inferior colliculus of decerebrate cats. In Abstracts of the Thirty-Fourth Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 34. (Abstract 705).
147. **Greene NT**, O'Neill W., and Paige G. 2010. Psychophysical examination of the accuracy and precision of sound localization with respect to sound source diameter. In Abstracts of the Thirty-Third Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 33. (Abstract 315).
148. **Greene NT**, Lomakin O, and Davis KA. 2010. Inhibition Shapes the Temporal Discharge Patterns of Units in the Lateral Superior Olive: A Modeling Study. In Abstracts of the Thirty-Third Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 33. (Abstract 767).
149. **Greene NT**, Lomakin O, and Davis KA. 2009. Discharge patterns of single units in the lateral superior olive of decerebrate cats. In Abstracts of the Thirty-Second Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 32. (Abstract 337).
150. **Greene NT**. Response Properties of Single Units in the Lateral Superior Olive of the Decerebrate Cat. Masters Defense, University of Rochester, Department of Biomedical Engineering, 2008.
151. **Greene NT**, Lomakin O, and Davis KA. 2008. Properties of Single Units in the Lateral Superior Olive of Decerebrate Cats. In Abstracts of the Thirty-First Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 31. (Abstract 204).
152. Werner-Reiss U., **Greene NT**., Underhill AM., Metzger RR., Groh JM. 2005c. The representation of sound frequency in the primate inferior colliculus. In Abstracts of the Twenty-Eighth Annual Mid Winter Research Meeting of the Association for Research in Otolaryngology (ARO). Vol 28. (Abstract 923).
153. Werner-Reiss U., Porter KK, **Greene NT**, Larue DT, Winer JA, and Groh JM. 2005a. Eye position signals are distributed throughout the primate inferior colliculus. In 35th annual meeting of the Soc. Neurosi. (Abstract 505.2).

Research and Training Support

Current Research Support:

"Flashbang Effects: Pressure Impulse" PI: Ted Argo, Ph.D., Applied Research Associates, Inc.; Department of Defense (DoD) Joint Nonlethal Weapons Program (JNLWP); Pilot study: MAC #M67854-22-D-7209; Role: Key Personnel (CU Anschutz Contact); 02/2023 – 02/2024.

PI: Brian Zadler, PhD, Applied Research Associates
Agency: DOD/JIFCO
Type: IDIQ
Role: Subcontractor
Dates: 09/2022-09/2027

"Development of Endoscopic procedures in Otolaryngology Surgery"

PI: Brian Herrmann, MD,
Co-PI: Nathaniel Greene, Ph.D.
Agency: Storz
Type: Material Transfer Agreement
Dates: 2023 – 2025

Completed Research Support:

"Correlation of Laboratory-Based Advanced Hearing Protection Evaluation Methods with Human Performance"
PI: Ted Argo, Ph.D., Applied Research Associates, Inc.
Agency: Department of Defense (DoD) Congressionally Directed Joint Warfighter Medical Research Program (JWMRP)
Type: Project continuation
Dates: 07/31/2020-07/30/2023

"Improving an animal model of human hearing loss: quantifying risks associated with common otolaryngology procedures "
PI: Nathaniel Greene, Ph.D.
Agency: NIH/NIDCD
Type: Early Career Research (ECR) award (R21)
Dates: 09/26/2019-08/31/2023

"Flashbang Grenade: Stress Effects"
PI: Ted Argo, Ph.D., Applied Research Associates, Inc.
Agency: Department of Defense (DoD) Joint Nonlethal Weapons Program (JNLWP)
Type: Pilot study: MAC #N000174-17-D-0032
Role: Key Personnel (CU Anschutz Contact)
Dates: 02/2022 – 02/2023

"Changes in intracochlear sound pressure with cochlear implant electrode manipulation"
PI: Nathaniel Greene, Ph.D.
Agency: Med-El
Type: Material Transfer Agreement
Dates: 03/2019 – 03/2020

"Constraints on binaural sensitivity via bilateral bone conduction"
PI: Andrew Brown, Ph.D., University of Washington
Agency: NIDCD/NIH
Type: Early Career Research (ECR) award (R21)
Dates: 04/2019 - 03/2022
Role: Co-investigator

PI: Daniel Tollin, PhD
"Conference grant for MEMRO 2021"
Agency: NIH
Type: R13DC019020
Dates: 09/01/2021 - 08/31/2022

"Investigations into the Mechanics of Hearing Restoration Devices"
PI: Nathaniel Greene, Ph.D.
Agency: NIH
Type: L30DC017334; Loan Repayment Program
Role: PI
Dates: 07/2018 - 06/2022

“Non-Lethal Flash Bang Effectiveness Pilot Study: Acoustic Effects”
PI: Ted Argo, Ph.D., Applied Research Associates, Inc.
Agency: Department of Defense (DoD) Joint Nonlethal Weapons Program (JNLWP)
Type: Pilot study: MAC #N000174-17-D-0032
Role: Co-PI/Testing technical lead (CU Contact)
Dates: 10/2019 – 09/2020

“Measurement of vibrational stimulation produced by the Otolith Labs Transcranial Vibration Device”
PI: Didier Depireux, Ph.D., Otolith Labs Inc.
Agency: Department of Defense (DoD) Department of the Air Force
Type: SBIR
Role: Co-PI/Testing technical lead (CU Contact)
Dates: 09/2019-04/2020

“Improvement & Extension of Auditory Hazard Models”
PI: Tim Walilko, Ph.D., Applied Research Associates, Inc.
Co-PIs: Ted Argo, Daniel Tollin, Nathaniel Greene, James Easter
Agency: Dept. of the Army -- USAMRAA
Type: “W81XWH-13-MOMJPC5-IPPEHA”
Dates: 10/1/2014-9/30/2018
Role: Co-PI

“Development of Human Injury Risk Algorithms Informed by the Findings of Animal Studies.”
PI: Tim Walilko, Applied Research Associates, Inc.
Agency: Department of the Navy – ONR
Type: N00014-14-C-0254
Dates: 10/2014 – 09/2018
Role: Key Personnel

IPPEHA grant “Effects of Acoustic Impulses on the Middle Ear”
Co-PIs: William Ahroon, Ph.D., U.S. Army Aeromedical Research Laboratory; Gregory Flamme, Ph.D., Western Michigan University
Agency: Dept. of the Army -- USAMRAA
Type: “W81XWH-14-2-0140-IPPEHA”
Dates: 10/1/2014-9/30/2018
Role: Contractor / Protocol PI

“Examination of Factors that Limit Performance of Bone Conduction Implants”
PI: Jameson Mattingly, M.D., University of Colorado
Agency: American Academy of Otolaryngology—Head and Neck Surgery Foundation (AAO-HNSF)
Dates: 7/1/2015-6/30/2016
Role: Key Personnel

“Mechanisms of Blast-Related Injury in the Peripheral Vestibular System”
Co-PIs: Katie Rennie, Ph.D., Daniel Tollin, Ph.D., University of Colorado
Agency: NIH/NCRR Colorado CTSI (Clinical & Translational Sciences Institute)
Dates: 5/1/2015 – 8/1/2016
Role: Key Personnel

“Institutional Training in Otolaryngology Research”
PI: Sue Kinnamon, Ph.D., University of Colorado
Agency: NIH/NIDCD

Type: 1T32DC12280-1 A1
Dates: 7/1/2013-3/15/2015
Role: Trainee

“Mechanisms and Mitigation of Hearing Loss from Blast Injury”
PI: James R. Easter, M.S., PE, Otologics LLC.
Agency: Dept. of the Army -- USAMRMC
Type: “W81XWH-10-2-0112”
Dates: 9/28/2010-10/30/2014
Role: Contractor

“Data acquisition and analysis software for measurements of mismatch negativity and acoustic change complex” Phase II Novel Methods
Co-PIs: Nate Greene, Ph.D., & Daniel J Tollin, Ph.D., University of Colorado
Agency: NIH/NCRR Colorado CTSI (Clinical & Translational Sciences Institute)
Type: UL1 RR025780
Dates: 5/1/2013 – 4/30/2014
Role: Co-PI

“Training in Hearing, Balance, and Spatial Orientation”
PI: Shawn Newlands, M.D., University of Rochester
Agency: NIH/NIDCD
Type: 5T32DC009974-03
Dates: 7/1/2010 – 6/30/2012
Role: Trainee